



Thermal Imaging Report

Sienna



*Thermal Imaging completed by
a Certified Thermographer
Authorized with the EquineIR™
Network.*



*Interpretative results
completed by Licensed
Veterinarians in contract with
Integrated Equine Infrared.*



Equine Resources Imaging Services
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August 29, 2013



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PATIENT: Sienna

THERMOGRAPHY DATE: August 18, 2013

IMAGING TIME: 5pm

Jodi Baxter
Box 673
Killarney, MB

Dear Jodi Baxter:

EquineIR was recently requested to perform a full body thermal imaging scan of: **Sienna**

The following photo report was completed by your EquineIR™ Certified Thermographer and all interpretative results were channeled through interpretir.com and subsequently formulated and input by a licensed veterinary team member with Integrated Equine Infrared.

The interpretation is intended to aid your state-licensed veterinarian in providing a diagnostic or treatment protocol. All follow-up testing and treatments should be conducted and administered by your primary veterinarian. The interpretation provided is based solely on the conditions at the time of survey and the thermal images included in this report. Thermography is a diagnostic tool that measures heat emitted from the surface of the patient. The thermal imaging camera converts infrared energy into a visible image. Emitted heat is related to circulation; as such, the thermal camera can help detect areas of inflammation as well as decreased circulation. Thermal symmetry is key, so you compare one anatomic area with the same area on the other side. The EquineIR™ report is prepared in this manner. It should be understood that correct patient preparation and environment are vital to a successful survey. Your EquineIR™ technician is also a Certified Infrared Thermographer and has been trained in the proper use and the proven techniques of thermal imaging as it is used with horses. There are however certain situations which may reduce the quality of the survey including the improper preparation of the horse prior to technician's arrival. The interpreting veterinarians who review the imagery base their findings and recommendations on information provided, so it is critical that proper care be taken in the preparation process to ensure success.

Thermal imaging is a physiologic modality and should not be relied upon as the sole diagnostic tool. A complete clinical examination by your state-licensed veterinarian is always recommended for the best diagnosis and follow-up treatment. This Report is not a definitive diagnosis of any illness or disease. It is intended for use only by licensed veterinary professionals to evaluate patient health, diagnose medical conditions, and provide treatment. It is not to be used by individuals for self-diagnosis or self-evaluation, nor for the diagnosis or evaluation of other non-qualified personnel. This report does not replace, nor is intended to replace a complete clinical evaluation by your state-licensed veterinarian. Under no circumstances will EquineIR™, Integrated Equine Infrared or its affiliates be held responsible for illness, injury, or death to the patient as a result of the information contained herein. This report does not replace, nor is intended to replace a complete clinical evaluation.

Your EquineIR™ Technician looks forward to working with you in the future. If you would like to set up an ongoing maintenance imaging program for your horse(s), we can arrange this at discounted rates along with multiple horse discounts. Please call our office with any questions as we would love to assist you in your success.

Sincerely,

Connie Friesen

Connie Friesen, *Certified Infrared Thermographer*
Equine Resources



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EQUINE CLIENT INFORMATION

CLIENT NAME: Jodi Baxter
MAILING ADDRESS: Box 673, Killarney, MB
CLIENT EMAIL: Jodi.bxtr@yahoo.ca
CLIENT PHONE: 204-523-7271

HORSE AGE: ~15
HORSE BREED: Quarter Horse
HORSE PRIMARY USE: Rescue

SURVEY INFORMATION

THERMOGRAPHER: Connie Friesen
INFRARED CERTIFICATION #: 9036
INFRARED CAMERA MODEL: Flir T420 **CAMERA SERIAL NUMBER:** 62101463
NUMBER OF THERMAL IMAGES SUBMITTED: 25

WEATHER: Light Wind, Sunny
APPROXIMATE TEMPERATURE: 25 °C
IMAGING LOCATION: Covered area

EXERCISED PRIOR: No **HOW LONG:** Horse unable
TYPE OF EXERCISE: Click here to enter text.

BOOTS OR WRAPS ON HORSE? No **HOURS SINCE:** Not Applicable
FLYSPRAY OR LINIMENTS APPLIED WITHIN 24 HOURS: No

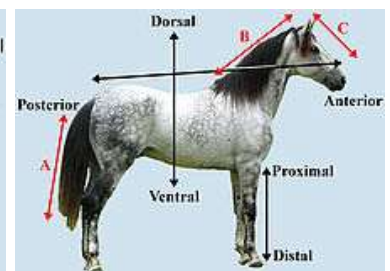
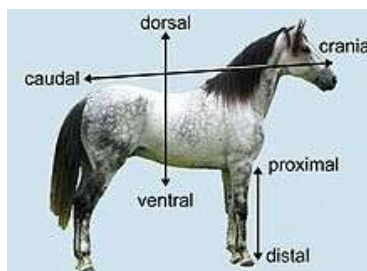
REASON FOR SCAN or HISTORY RECEIVED: Sienna was adopted from a rescue in April 2013. The day she was picked up she was pinned down by several other horses and was beat badly. She was shocky, underweight, and many bite and kick marks all over her body. Her belly swelled up and there were concerns it might be a hernia but ended up being a hematoma. She healed up nicely. Recently, she went down and couldn't get back up. IV fluids for 24 hrs, IV Dex for 7 days, blood work done, no signs of bacterial or viral infection, DMSO in IV solution. It was 12 hours before she stood up. Her gait currently is unstable, very wobbly, almost looks drunk. Hard time controlling hind end. Severely drags hind feet, noticeable curve in her spine, tail cocked to one side. Client wanting to know what happened, if it's muscle, nerves, or bone causing the problem. Depending on finding, client is considering the well being of Sienna and if this condition is treatable. Will Sienna be ok as a pasture pet, or should euthanasia be considered? Due to instability of the hind end, images of the underfoot were not able to be taken. Image 33 was unusable (but considering condition may be insignificant).

INTERPRETATION INFORMATION (Completed by Veterinarian)

INTERPRETATION TYPE: Full Enhanced Survey

DATE OF INTERPRETATION: 8/29/2013

REVIEWING VETERINARIAN: Dr. Debra K Tibbitts

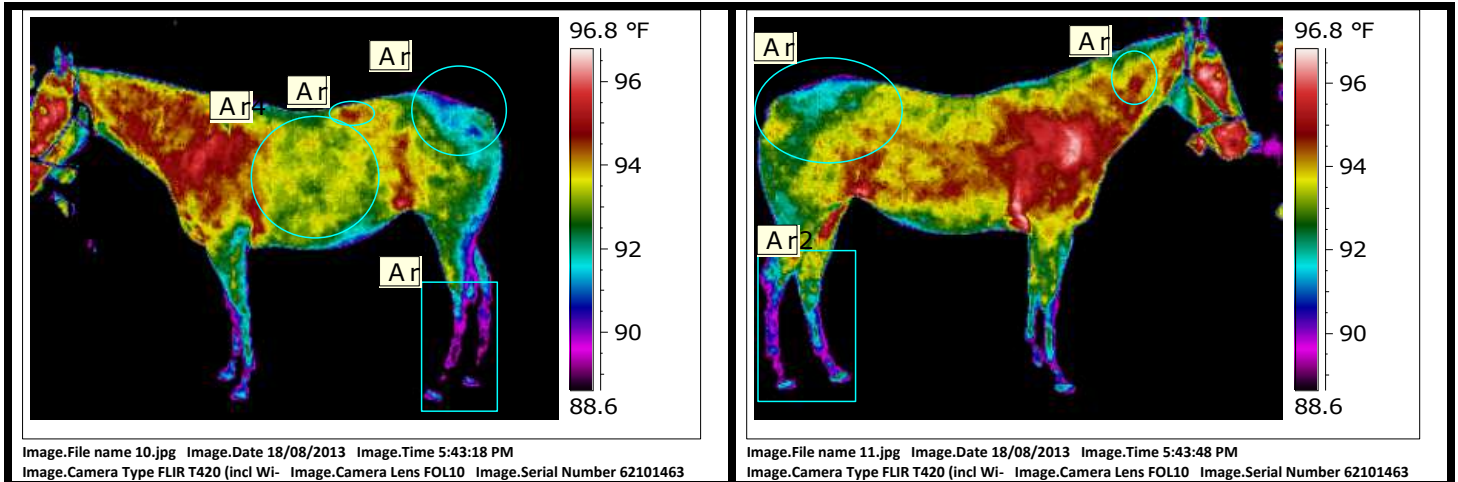




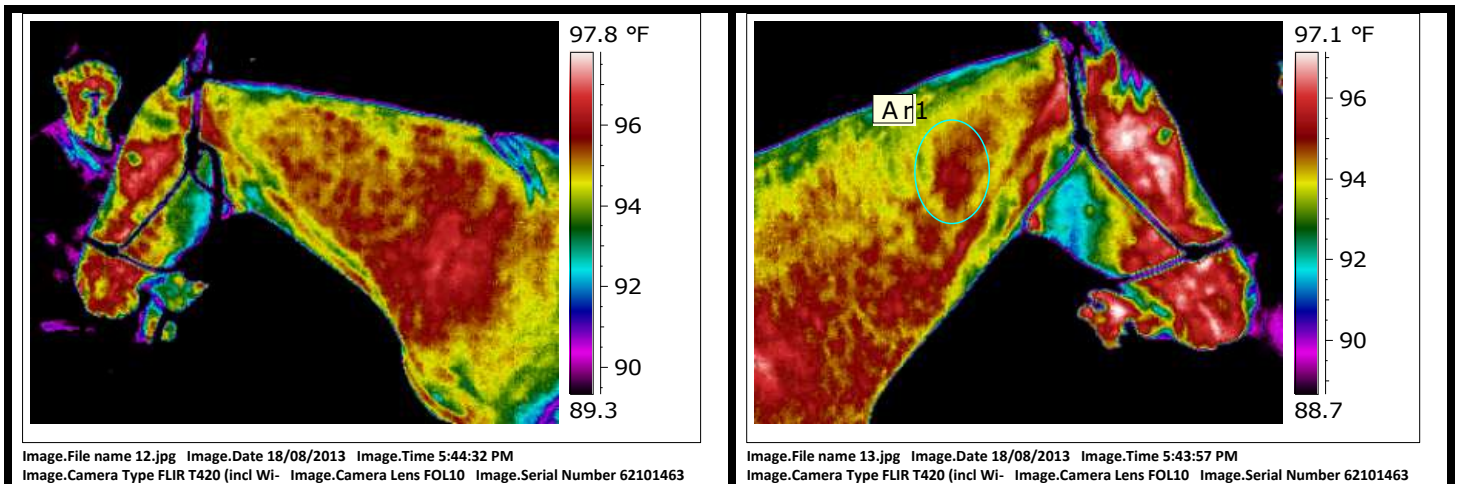
PATIENT: Sienna

THERMOGRAPHY DATE: August 18, 2013

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Decreased heat over gluteal muscles and hind limbs – could possibly be due to breeze artifact or circulatory blockage or neurologic damage. There is an area of increased heat along the lumbar spine possibly indicating inflammation. The upper cervical region at the level of C3 has a focal area of increased heat which may be due to inflammation/trauma/chiropractic lesion. Palpation recommended. The left flank appears cooler than the right possibly indicating muscle imbalances.



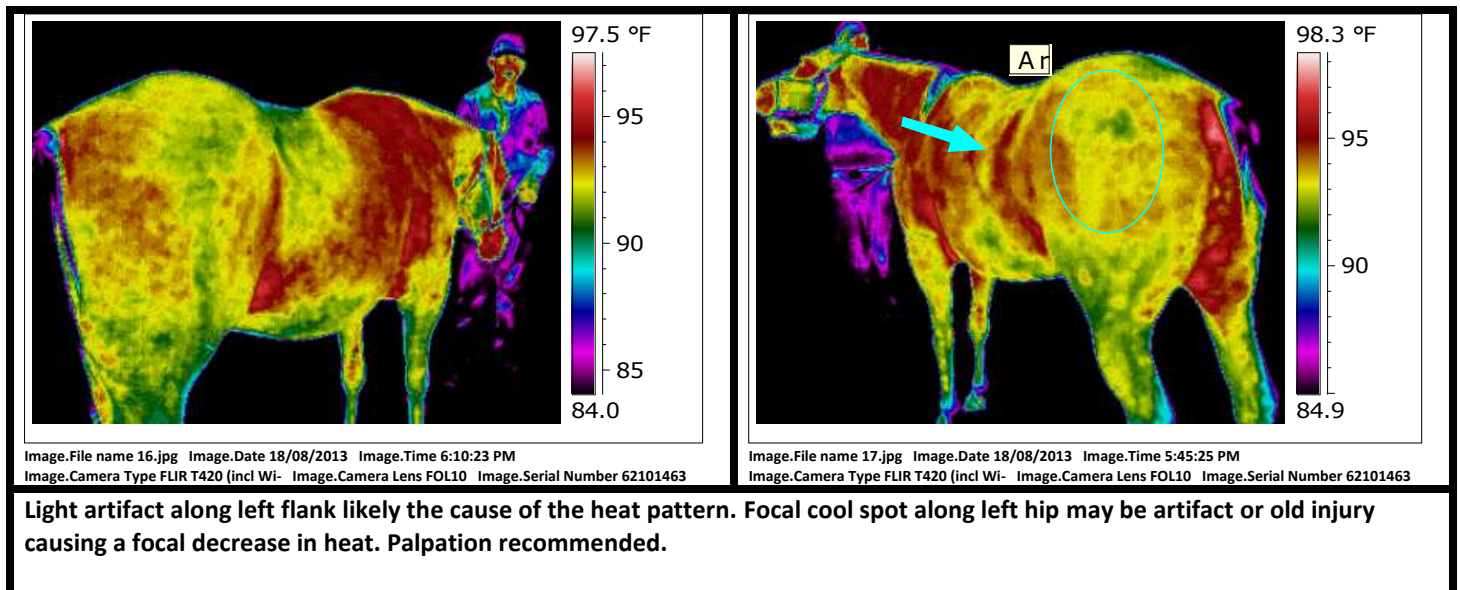
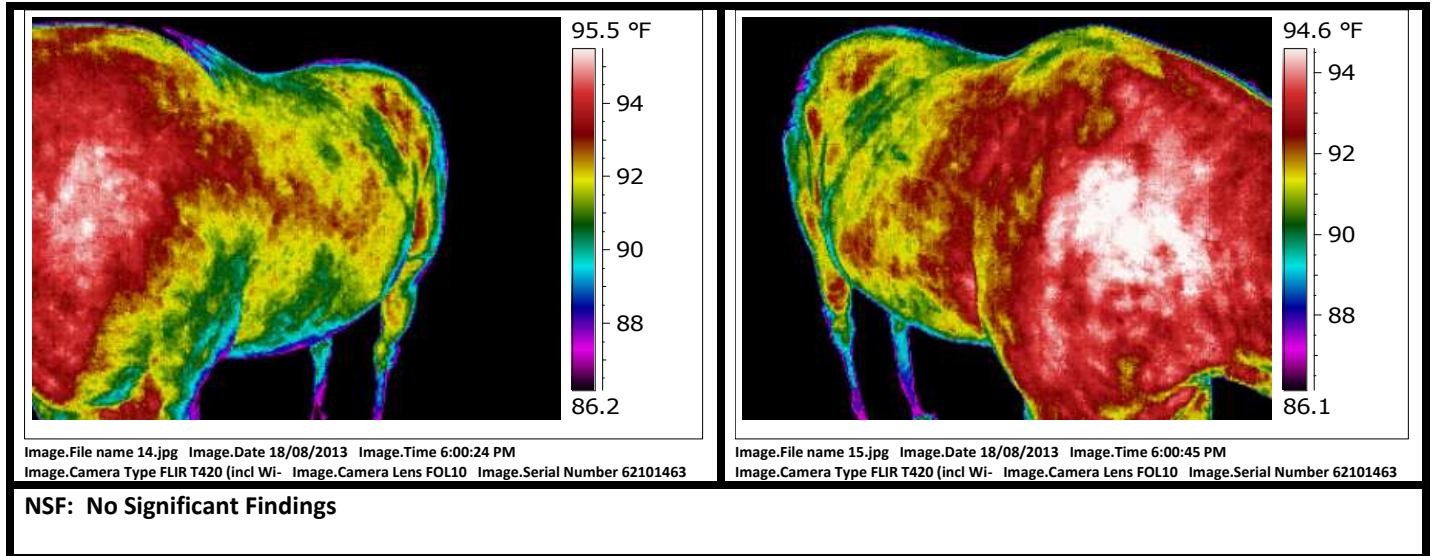
Focal area of increased heat along C2-3. Palpation including motion palpation recommended checking for cervical fixation/rotation.



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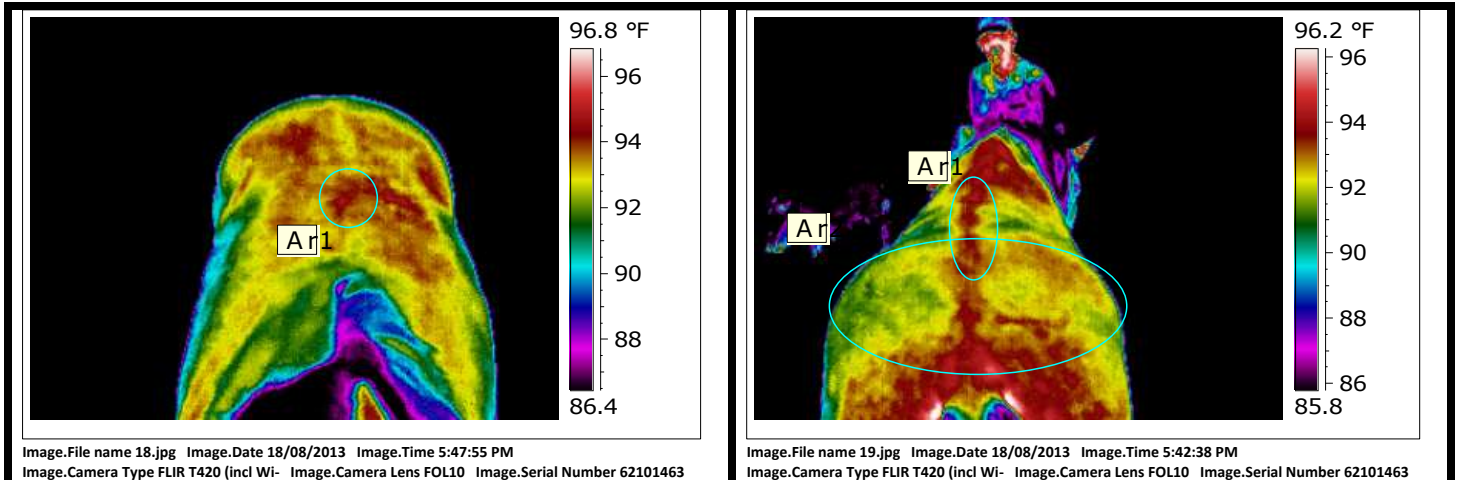




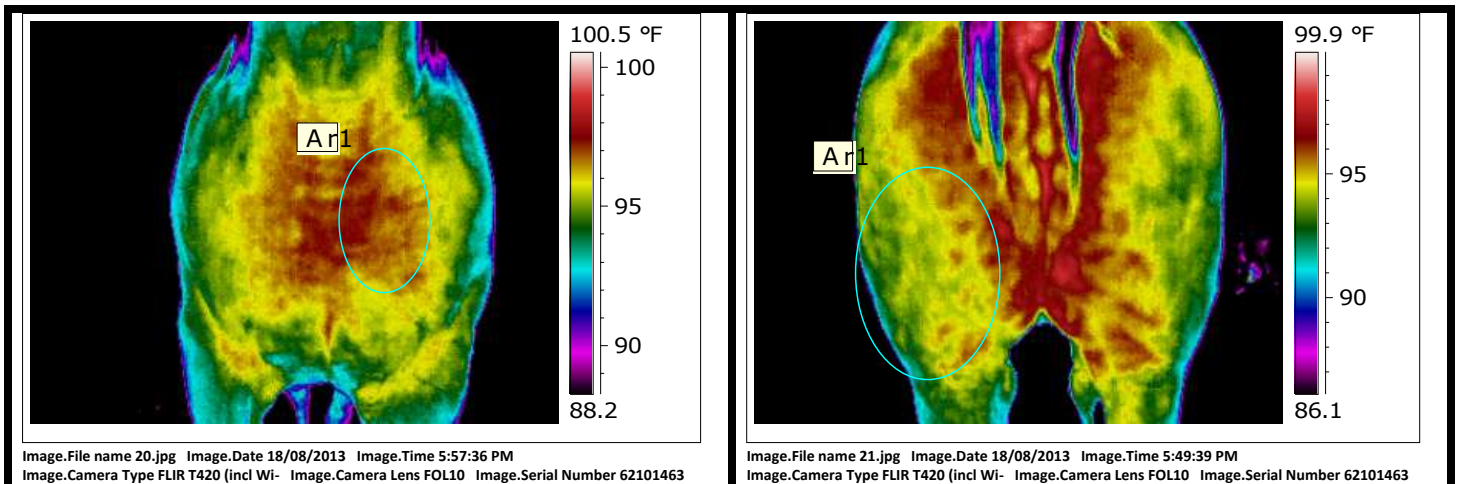
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Asymmetry over the gluteal musculature may be due to light artifact based on digital image. May also be caused by off-loading of the left hind limb. There are focal areas of increased heat along the thoracolumbar spine which are partially due to conformation of the horse, but the variation in the pattern suggests that there is also active inflammation. Palpation recommended.



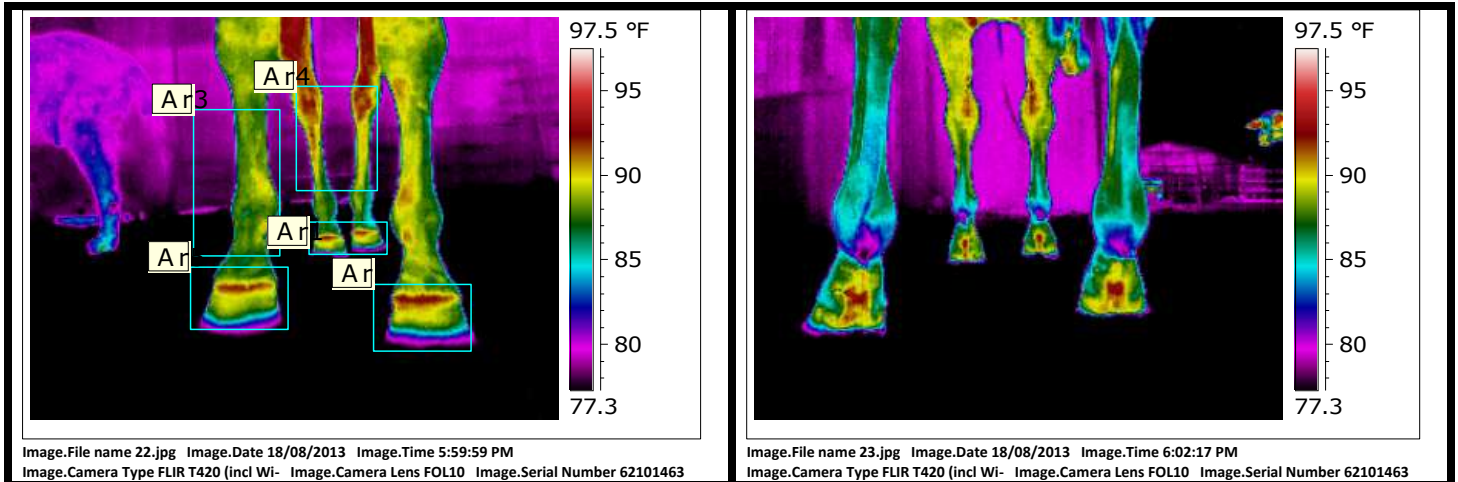
Asymmetry in the chest and hamstrings with heat greater on the left chest and right hamstring. Uneven limb loading likely the cause.



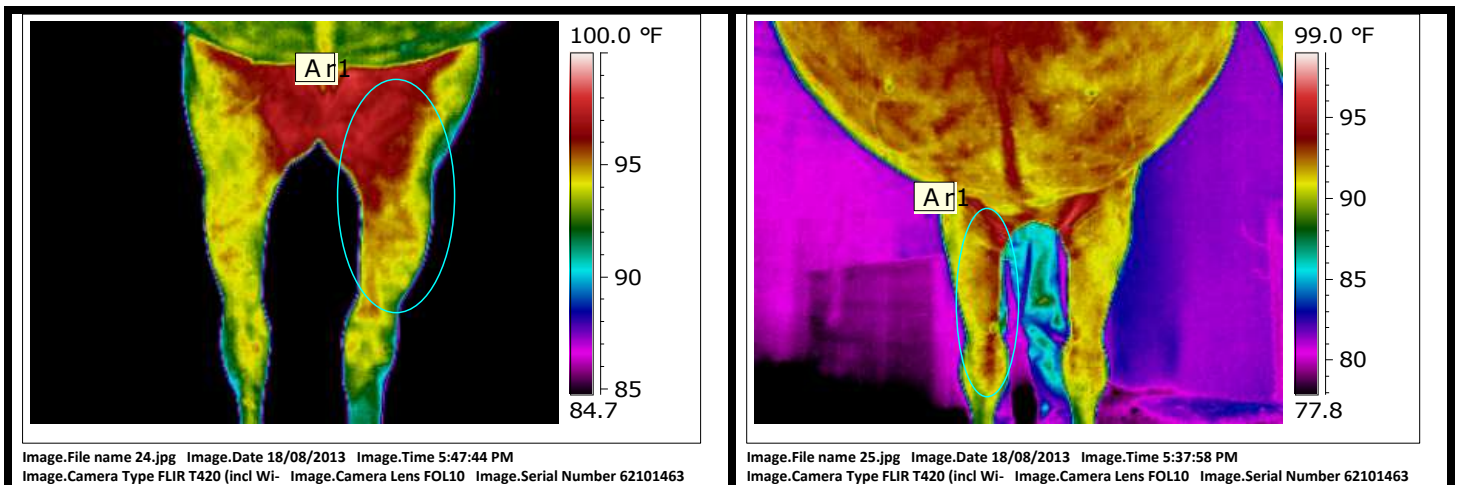
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Uneven loading of the coronary band seen which may be due to imbalances in the feet or due to uneven loading of the limb from above. Asymmetry in the hind limbs with heat greater on the right likely due to off-loading of other limb. There is asymmetry in the front limbs with heat greater in the LF limb, likely due to off-loading of the RF.



Asymmetry seen in the medial hind limbs with heat greater on the left medial thigh, though the view is not symmetrical so it may be positional. Palpation for inflammation recommended. Left front medial forelimb has increased heat versus the right, likely due to off-loading of other limb.



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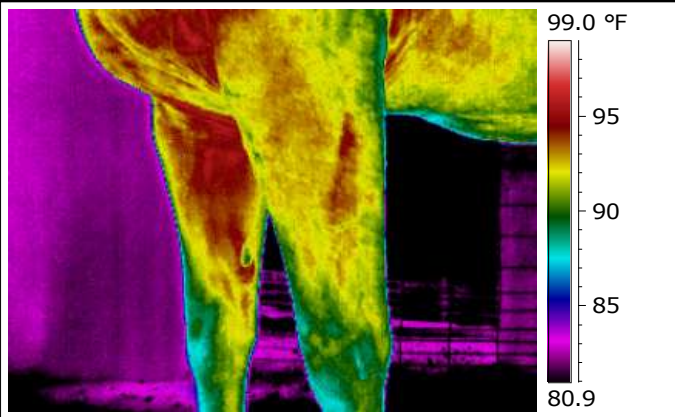


Image.File name 26.jpg Image.Date 18/08/2013 Image.Time 5:41:54 PM
Image.Camera Type FLIR T420 (incl Wi- Image.Camera Lens FOL10 Image.Serial Number 62101463

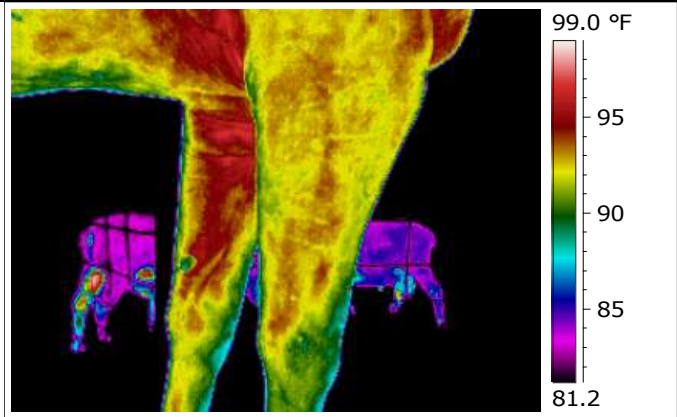


Image.File name 27.jpg Image.Date 18/08/2013 Image.Time 5:40:41 PM
Image.Camera Type FLIR T420 (incl Wi- Image.Camera Lens FOL10 Image.Serial Number 62101463

NSF: No Significant Findings

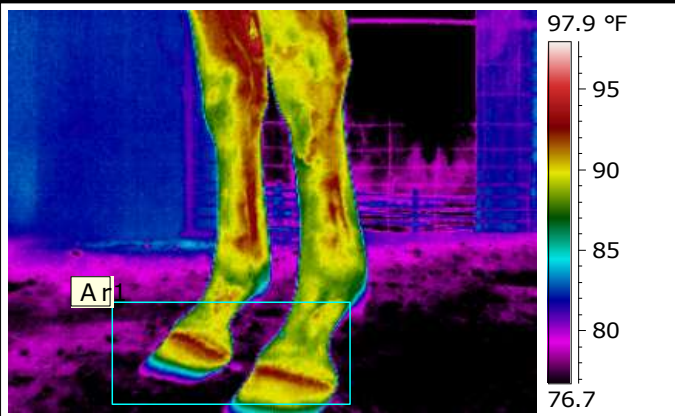


Image.File name 28.jpg Image.Date 18/08/2013 Image.Time 5:41:42 PM
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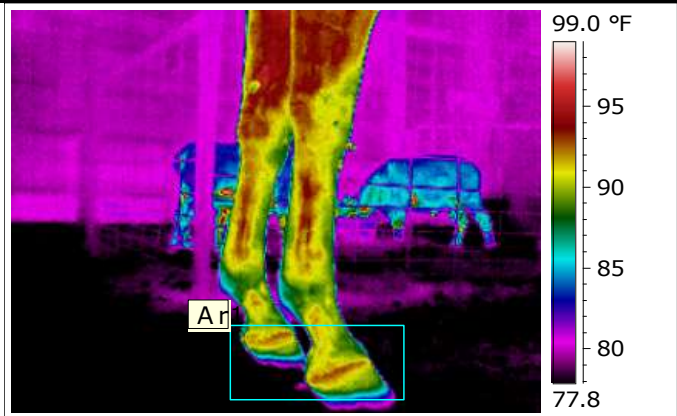


Image.File name 29.jpg Image.Date 18/08/2013 Image.Time 5:39:53 PM
Image.Camera Type FLIR T420 (incl Wi- Image.Camera Lens FOL10 Image.Serial Number 62101463

Uneven pressure at coronary band both front feet. Hoof imbalances or uneven limb loading present.



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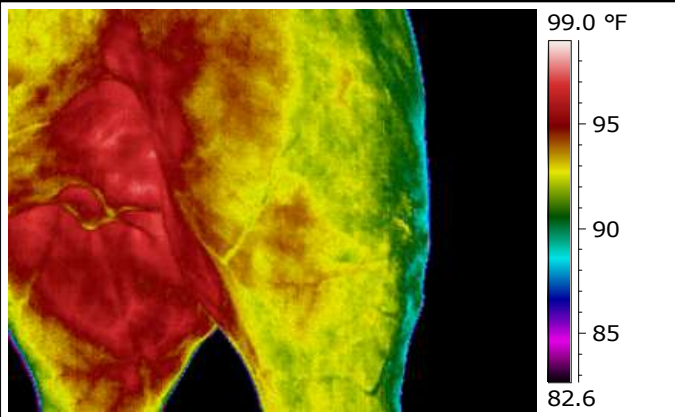


Image.File name 30.jpg Image.Date 18/08/2013 Image.Time 5:38:23 PM
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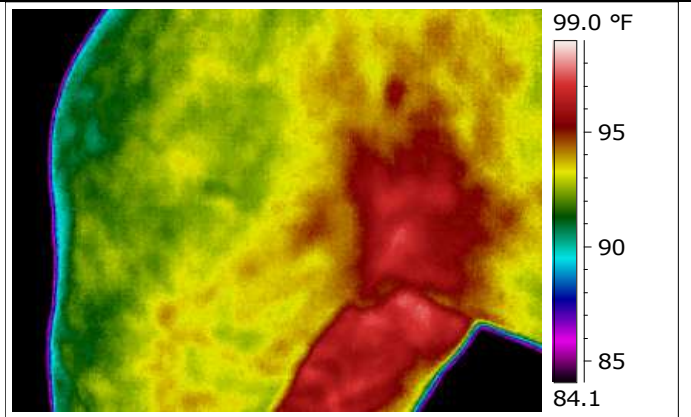


Image.File name 31.jpg Image.Date 18/08/2013 Image.Time 5:38:37 PM
Image.Camera Type FLIR T420 (incl Wi- Image.Camera Lens FOL10 Image.Serial Number 62101463

Comparison very difficult with the images presented due to angles, distance and lack of focus. No obvious asymmetry seen.

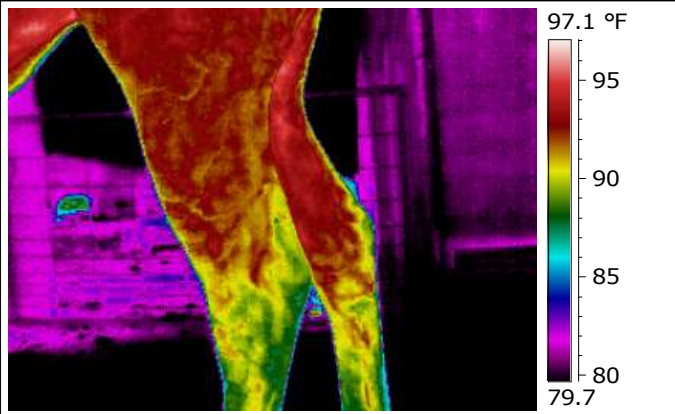


Image.File name 32.jpg Image.Date 18/08/2013 Image.Time 5:42:13 PM
Image.Camera Type FLIR T420 (incl Wi- Image.Camera Lens FOL10 Image.Serial Number 62101463

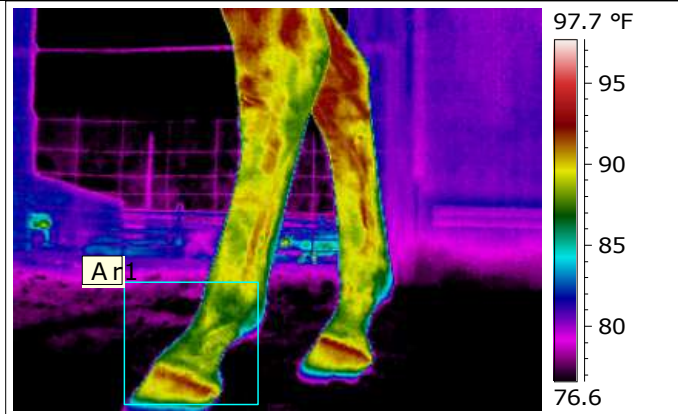


Image.File name 34.jpg Image.Date 18/08/2013 Image.Time 5:42:01 PM
Image.Camera Type FLIR T420 (incl Wi- Image.Camera Lens FOL10 Image.Serial Number 62101463

No image 33 for comparison. No obvious abnormalities in image 32. Left hind pastern appears to have decreased heat versus the right possibly due to off-loading.

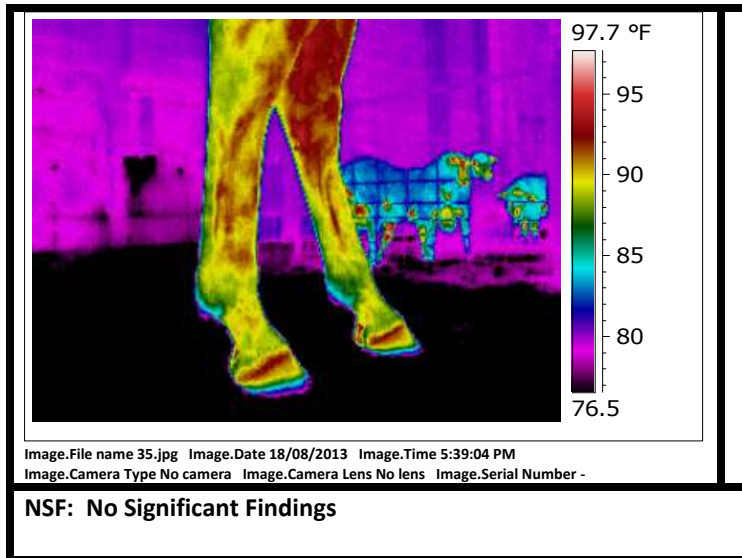


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SUMMARY AND RECOMMENDATIONS: Sienna seems like a kind mare and hopefully some insight can be gained from her thermal images.

This scan had missing images and poor positioning in some images due to mare's instability, there was also some light and breeze artifacts in some images. The proper patient preparation was not able to be performed. Comments are based on the images presented.

There is decreased heat over gluteal muscles and hind limbs – could possibly be due to breeze artifact or circulatory blockage or neurologic damage. Focal area of increased heat along C2-3. Palpation including motion palpation recommended checking for cervical fixation/rotation. Also, the left flank appears cooler than the right possibly indicating muscle imbalances.

There are focal areas of increased heat along the thoracolumbar spine which are partially due to conformation of the horse, but the variation in the pattern suggests that there is also active inflammation. Palpation and motion palpation recommended.

Asymmetry in the chest and hamstrings with heat greater on the left chest and right hamstring. Uneven limb loading likely the cause.

Uneven loading of the coronary band seen which may be due to imbalances in the feet or due to uneven loading of the limb from above. Asymmetry in the hind limbs with heat greater on the right likely due to off-loading of other limb. There is asymmetry in the front limbs with heat greater in the left limb, likely due to off-loading of the right front limb. Left hind pastern appears to have decreased heat versus the right possibly due to off-loading.

The history of sudden paralysis long after the pre-rescue trauma this horse experienced makes it unlikely that the current condition is related. No current history of trauma was given nor was any obvious trauma seen in the images submitted. There are several diseases that can cause acute onset of hind limb weakness/paralysis. These include West Nile Virus, EPM, Eastern and Western Encephalitis and Rhino. These take special serologic or cerebrospinal fluid testing to confirm. Contact your local veterinarian for further information about this.

Thank You!

Reviewing Veterinarian: Debra K Tibbitts, DVM, CVCP, EDO, CVA, CIT

